What is claimed is:

1. A stacked coil device comprising:

an inner electrode layer formed of at least two layers and having a non-magnetic electrode layer and an inner magnetic layer as one unit;

a non-magnetic electrode layer provided with an opening at a center thereof and provided with an electrode pattern on at least one surface of upper and lower surfaces thereof;

an inner magnetic layer positioned at the center opening and a lateral surface of the non-magnetic electrode layer;

a cover layer in contact with both surfaces of the inner electrode layer; and

an external electrode terminal electrically connected to a part of the electrode pattern.

2. The device of claim 1, wherein a first via hole is formed on the non-magnetic electrode layer at a part where the electrode pattern is not formed, a second via hole is formed on the electrode pattern, and a conductive material is filled in the via holes.

3. The device of claim 2, wherein a part of the electrode pattern of the non-magnetic electrode layer where the via holes are formed is electrically connected to electrode patterns of another non-magnetic electrode layers in contact with upper and lower surfaces of the non-magnetic electrode layer through the via holes.

4. The device of claim 1, wherein the cover layer further includes a non-magnetic layer.

5. The device of claim 1, further comprising a buffer layer composed of a non-magnetic layer or a magnetic layer having the same shape as the inner electrode layer and having no electrode pattern between the cover layer and the inner electrode layer.

6. The device of claim 1, wherein the non-magnetic electrode layer is composed of B_2O_3-SiO_2 based glass, Al_2O_3-SiO_2 based glass, or ceramic material having similar thermal expansion ratio to the ferrite.

7. The device of claim 1, wherein the inner magnetic layer is composed of ferrite such as Ni-based material, Ni-Zn based material, Ni-Zn-Cu based material, and etc.

8. A fabrication method of a stacked coil device comprising:

preparing green sheets that a magnetic film and a non-magnetic film are respectively formed on a carrier film;

forming cutting lines on the magnetic film green sheet and the non-magnetic film green sheet;

forming via holes on the non-magnetic film green sheet where the cutting lines are formed;

forming an electrode pattern at an upper surface of the non-magnetic film green sheet where the via holes are formed;

picking up unnecessary parts from the magnetic film green sheet and the non-magnetic film green sheet;

stacking the green sheet where the magnetic film and the cutting lines are formed, and the green sheet where the non-magnetic film, the cutting lines, the via holes, and the electrode pattern are formed;

firing the stack body; and

forming an external electrode terminal at an outer surface of the fired stack body.

9. The method of claim 8, wherein the magnetic green sheet or the non-magnetic green sheet on the carrier film are respectively formed by using a doctor blade tape casting method.

10. The method of claim 8, wherein picked-up regions of the magnetic green sheet and the non-magnetic green sheet are opposite to each other thus to constitute one single layer of the magnetic green sheet and the non-magnetic green sheet.

11. The method of claim 8, wherein the electrode pattern of an upper surface of the non-magnetic film green sheet is formed by a screen printing.

12. A stacked coil device fabricated by a method of claim 8.